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ABSTRACT

Among information workers, the term "disintermediation" has been used to describe the diminishing role of the intermediary associated with the electronic information environment. IMPEL2 is a JISC-funded e-Lib Project investigating the social, organizational, and cultural impacts of the growing electronic library in United Kingdom higher education. This paper forecasts possible developments and changes in disintermediation through the year 2010. The use of structuring scenarios has been identified as a useful tool to identify key issues. The IMPEL2 team used a scenario-building technique to identify issues surrounding disintermediation. Six stages comprise the production of scenarios: (1) deciding on drivers for change; (2) bring drivers together into viable framework; (3) produce initial mini-scenarios; (4) reduce to two scenarios; (5) write the scenarios; and (6) identify issues arising from the scenarios. Issues identified as important include: the intermediary will still exist; the intermediary might not be a librarian; the intermediary might have a very different role to play; and the control of the flow of information may be restricted by a number of factors. The scenarios show that the issues are as much social and political as personal and individual. The use of scenarios as a means of involving groups in exploring both the wide and narrow contexts is a valuable tool. The potential for a greater appreciation of both the threats and opportunities for librarians working in a changing environment is evident. (Contains 16 references.) (Author/SWC)

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Disintermediation in the Year 2010: Using Scenarios to Identify Key Issues and Relevance of IMPEL2 eLib Project

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Disintermediation in the year 2010: using scenarios to identify key issues and relevance of IMPEL2 eLib project

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Abstract: *'Disintermediation' is not a term in general use, nor is it to be found in dictionaries. Among information workers it has been used to describe the diminishing role of the intermediary associated with the electronic information environment. IMPEL 2 is a JISC-funded e-Lib Project investigating the social, organisational and cultural impacts of the growing electronic library in UK Higher Education. This study is based on an earlier one (IMPEL 1) which revealed concern among library staff about disintermediation. The purpose of this paper will be to try and forecast possible developments and changes in disintermediation over the next 20 years. The structuring of scenarios has been identified as a useful tool to identify key issues. The IMPEL2 team used a scenario-building technique to identify issues surrounding disintermediation. The relevance of the IMPEL2 Project to this topic is described.*

Keywords: disintermediation, scenarios, cultural change

1. Introduction

The term 'disintermediation' has crept into use only recently although the concept has been familiar to information workers since automation began. It enables the end-user to gain access to information without the assistance or intervention of an information professional. Stahl (Ref 1) points out that disintermediation is not confined to the information context but is a feature of everyday life: the use of dial telephones, the advent of self-service stores. Even books, he observes, are a technology of disintermediation, obviating the need for storytellers. Blakeman (Ref 2) refers to the ability afforded by the Internet to companies and individuals to bypass the middlemen, whether to buy insurance or an airline ticket. Birchall *et al.* (Ref 3) describe a tension between the obvious opportunities for librarianship in a post-industrial society and the professional insecurity among librarians which has increased as the era of post-industrialism has progressed. Their analysis leads them to conclude that there are two diverging directions for organisational and societal development: 'Either towards technocracy or towards the learning organisation and the learning society. In both there will be roles that could be filled by librarians, but the learning organisation's network structure would offer many more opportunities.'

Blakeman (Ref 4) is sceptical that disintermediation is a real issue. She offers a practical approach to how intermediaries may help users and how they may safeguard their future. Like Stahl (Ref 5), she recommends marketing, adding value and filtering information, using librarianship skills to maximise the quality and appropriateness of the information for the individual or organisation. The old idea of the librarian as an intermediary (some would say barrier) between user and information gives way to a new interpretation of the role.

Between 1993 and 1995 the Information Services Department (ISD) and the Department of Information and Library Management (DILM) at the University of Northumbria at Newcastle (UNN) were involved in a research project looking at the human aspects of electronic library service delivery in the UK higher education sector (Refs 6, 7 8). Eighty-two semi-structured interviews took place with a range of library and computing staff which focused on the impact of IT in their work. In many interviews with library staff, concern emerged about the perceived lack of control resulting through end-users doing their own searching (Ref 9). Other concerns from librarians about people using electronic information sources without an intermediary have been described in the literature.

In one study (Ref 5) the following conclusions were drawn from the literature about the end-user: that CD-ROM databases can be used without direction, that end-users receive satisfactory answers to their queries and that they prefer CD-ROM to printed reference tools. An analysis of 82 end-users' searches was completed to test these observations and the results complied with the assumptions. Librarians also appear worried about lack of sophistication in end-user searching. At Drexel University (Ref 11) database search print-outs/questionnaires and student bibliographies were analysed. The authors concluded that students were too specific and used insignificant terms. Another study (Ref 12) focused on whether students went beyond a basic level of searching. This was defined as entering uncontrolled search terms and displaying the result on a computer screen. Forty-six searches were analysed: only 56% used Boolean logic and only 17% used special features (e.g. command). The

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conclusion was that end-users could obtain and print results but few used sophisticated refining techniques.

This lack of sophisticated end-user techniques has also been highlighted in a study at Hofstra University (Ref 13). In 1989/1990 300 questionnaires were distributed to end-users with a 68% response rate. A high satisfaction rate was reported but the librarian authors expressed their concern about the limited techniques and end-users being more interested in high recall than high precision. In another study (Ref 14) evidence was collected which showed the actual success rates of end-user searches were low but there was a high level of end-user satisfaction.

In view of the rate of technological and social change, disintermediation may become a prominent issue over the next 20 years. The purpose of this paper will be to try and forecast possible directions. Scenarios have been identified as a useful tool which can be used in a variety of way. The background will be given to the use of scenarios and the process the IMPEL2 team at UNN used in the production of the disintermediation scenarios which will be described. The key issues on disintermediation emerging from these scenarios will be examined. Finally, an overview of the IMPEL2 eLib project will be given along with its relevance to disintermediation. IMPEL2 is funded by JISC under the eLib programme.

2. Scenarios

It is important that librarians identify an evolving strategy to react to changes such as the trend towards disintermediation. Wilkinson (Ref 15) describes these kind of issues as 'long fuse, big bang'. The decisions reached about these issues will have major implications but it will take many years before it is known whether the decision was right. The 'long fuse, big bang' questions do not lend themselves to traditional analysis. It is very difficult to investigate the uncertainties on which the success of decisions will depend.

Scenarios are an attempt to deal with uncertainty. They offer 'a valuable framework for bringing together all topics being discussed and for juxtaposing them in a structure that is meaningful' (Ref 16). The IMPEL2 team recognised the value of scenarios relating to disintermediation. This paper describes the process in scenario production and the resulting forecasts.

3. IMPEL2 process in drawing up disintermediation scenario

Before the process commences a STEP (sociological, technological, economic and political) analysis of the external factors affecting disintermediation was produced. In producing scenarios the importance of the quality of information used is essential. The key role of the STEP analysis is to educate the team about the key factors which define the environment. Table 1 is the STEP analysis on disintermediation drawn up by the IMPEL2 team.

Table 1: IMPEL2 STEP analysis on external factors relating to disintermediation.

Sociological	Home working, self reliance, the learning society, changing work patterns
Technological	Growth of full text, access to individual PCs, development of CD-ROM, networking, standards, Windows
Economic	Falling prices, expense of intermediaries
Political	Superhighway, globalisation, mass higher education

There are six stages in the production of scenarios. They are briefly described below.

3.1. Stage 1: deciding on drivers for change

Here the most important factors in predicting the future environment are identified. It is important to look at least 10 years ahead. The IMPEL2 team brainstormed the disintermediation drivers for changes. It is recommended (Ref 17) that only those drivers which are 'important' and 'uncertain' are used to shape the scenarios. 'Important' and 'certain' issues should be identified but they are not to be used in the scenario-building.

3.2. Stage 2: bring drivers together into viable framework

The results of the brainstorming session were brought together to form 6–8 groupings of major drivers. The important and uncertain drives on disintermediation established by the IMPEL2 team were: government/political influence, cheap and easy access to networks/ hardware/software, commercialisation, changes in educational philosophies, polarisation of access at national and international level, breakdown of place. These were used to produce the scenarios. The team argued that the quality driver (selecting relevant information from amount available, establishing appropriateness of level) was 'important' but 'certain' and therefore would be implicit in scenarios.

3.3. Stage 3: produce initial mini-scenarios

The IMPEL2 team then brainstormed each of these drivers to produce a range of mini-scenarios relating to each driver. People were encouraged to be as inventive as possible

3.4. Stage 4: reduce to two scenarios

It is crucial that the scenarios should be complementary. The number of mini-scenarios may be reduced in number and should contain all topics. Initially five scenarios were built, then reduced to two.

3.4. Stage 5: write the scenarios

A day in the life of Professor Wheatear, year 2015

Morning

Professor Wheatear surveyed the results of her latest experiment on her hand-held PC. It was warm in the crop research environment complex today: the temperature controls were set for the crops and not for the people working there. Still she was enjoying this research and the students were enthusiastic. The work undertaken during placements like this helped them to pay for their studies at the University of the Northern Sector. She quickly added her latest calculations. No, it was no use, she simply must read that article.

She tapped in the University Library code and her SLPC number. Now the catalogue details. Yes, they had the article, but what was this ? A message appeared on the screen. 'Access to this item is denied. Commercially sensitive material involved. Please apply to the Subject Librarian for clearance. Code is SUBLIBEARSCS3UNS'.

Professor Wheatear knew that access to all information sources was gained through the librarians. Subject librarians gave access to information at a price. Yet another librarian would check her credentials if the material was politically sensitive. Professor Wheatear sighed as she entered the code. This article was going to be expensive. You had to pay for everything now. It cost just to check the reference, then to read the article and even more to down-load it. 'Information is money — that's what they all said.' At last the SUBLIB was acknowledging her signal. Her Staff Level Personnel Code should be good enough to let her have access to the article, that was one advantage of being an academic. The SUBLIB needed her Personal Finance Number. If she entered it now she could read the article for ... 'Good grief — as much as that!'

Professor Wheatear decided it was worth it and entered her PFN. The screen went blank for a moment, then flashed a new message. 'Access denied. This article is legally sensitive'.

Now what could she do about that. If her suspicions were correct it was time this thing was out in the open. You would have thought the BSE scare would have taught the Ministry something but no, they still went on with the same tactics. There was no point in her trying to gain access. The system would put a stop on that and record all her entries. The Ministry were determined to keep the Greatheart findings under wraps until the court case was settled. The court case between the University of the Eastern Sector and the Ministry had been going on for some time. The article that Professor Greatheart had written on the effects of crop spraying was at the centre of the controversy and had implications for her research project. If the Ministry won then the Report might never be published and the information would be state classified. Her own work was going well but it would be so useful to check the Greatheart Project work. If she was correct, then the sooner it was known about the effects of this crop spray the better.

Phil Gates, there was the answer. A clever young man, too clever by half sometimes. That business with the hacking for instance He hadn't done any real harm, no importing viruses or dismantling systems. But he had admitted that he'd managed to get in and out of all sorts of systems undetected. He said that he believed in freedom of information and access for all. If anyone could get into the Library system it was Phil Gates. If she could persuade Phil Gates to help her ...

Afternoon

Professor Wheatear hated the drive home, in fact she hated driving altogether, come to think of it she didn't know anybody who did like driving these days. 'There's no pleasure in this anymore,' she thought to herself. Usually the Professor would avoid the rush hour traffic like the plague but after her meeting with Phil Gates she found that her concentration level was only marginally greater than that of a goldfish and so had decided to leave early. Her eyes may have been fixed upon the rear of the car in front but her mind was back at the office as she replayed the meeting with Phil Gates time and time again. What had she done? Was this article really worth risking her job for?

The traffic ahead was slowing as frustrated drivers shouted the usual torrents of abuse at each other. 'Give me strength,' she muttered to herself as she reached down into her bag on the seat next to her. 97684357. It seemed as if a full minute had passed before her daughter responded. 'Jenny, what have you been up to? Your hair's soaking!' exclaimed the Professor. 'Sorry mum, I've just got out the shower.'

'Well I finished early today dear so I'll be home in about 10 or 15 minutes.' The Professor went on 'get your hair dried, you'll catch your death!' 'OK mum, see you soon.'

The Professor pulled into the drive just as a few spots of rain began to trickle down the windscreen of the car. 'Just in time,' she thought to herself as she made a dash for the front door. She gave her daughter a big hug and asked her how her school work was going. She didn't like leaving her on her own and worked from home whenever possible but sometimes it was unavoidable.

Jenny had been working at home on a school project and Professor Wheatear was keen to hear how she was progressing. Glancing at the monitor in the front room the Professor noticed that Jenny was still online to someone called Louise in Paris and the print out on the table indicated that she had received e-mail from her contacts in Italy and Canada. Jenny's school was running a project with a number of other schools throughout the world on the subject of communication. The children from the participating schools were given each others e-mail addresses via their schools and asked to find out, using the appropriate methods of communication, as much about their hometowns as possible.

'The project looks like it's going well' the Professor said to her daughter. 'Yeah,' her daughter replied, 'and Anna suggested some articles that are online that would be useful to find out more about Vancouver, but I couldn't access them, I didn't have the correct codes.' 'Don't worry,' said the Professor 'we'll contact your school librarian and explain and see what we can sort out but first let's get some tea started, I'm starving!'

3.6. Stage 6: identify issues arising

The IMPEL2 team analysed the scenarios and highlighted the following as being important for disintermediation:

(a) the intermediary will still exist;

(b) the intermediary might not be a librarian;

(c) the intermediary might have a very different role to play;

(d) the control of the flow of information may be restricted by a number of factors.

4. IMPEL2 eLib project and disintermediation

A scenario-building exercise is fun and an excellent way of encouraging team working. Underlying the light-hearted approach in this instance, however, was the more serious intention to focus minds on important issues. The IMPEL2 Project is subtitled 'Monitoring organisational and cultural change,' and takes a campus-wide view of change associated with the increasingly electronic environment in the context of Higher Education in the 1990s. The Project is made up of four distinct but inseparable mini-projects:

- *Staff Study*: continues IMPEL1 in monitoring the impact of the electronic library on library and related support staff;
- *User Study*: runs parallel to project A in studying the impact of electronic information sources and systems on academic staff and student users;
- *Resource Based Learning Study*: considers the impact of resource based learning policies on library and information services;
- *EduLib Study*: monitors another eLib project, EduLib, which has developed a programme of educational development for library and information staff.

IMPEL2, taken as a whole, will be in an excellent position to inform the issue of disintermediation which will be central to each of the four mini-projects. It will explore the subject from the point of view of library and related (e.g. computing) staff, the point of view of library users, the teaching point of view and from the institutional and policy angle. It will focus the attention of all these stakeholders on the kind of cultural changes occurring in Higher Education, teaching and learning, and in information provision and use where technology becomes central to the activities of academic institutions. The discussion will extend beyond Higher Education to society as a whole, as technology breaks down the barriers between information seekers and sources available to them.

5. Conclusion

Most library and information professionals are well aware of the challenges facing them on a daily basis but naturally few would describe these in terms of a changing culture. To many people the concept is meaningless. However one of the aims of IMPEL2, albeit in an academic context, is to raise awareness, increase understanding and engage in discussion of the social, organisational and cultural issues which surround global electronic access to information by end-users. As the scenarios show, the issues are as much social and political as personal and individual. The use of scenarios as a means of involving groups in exploring both the wide and narrow contexts is a valuable tool. The potential for a greater appreciation of both the threats and opportunities for librarians working in a changing environment is evident.

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References

[1] Stahl, B. (1995) trends and challenges for academic libraries and information services, *Cause/Effect*, Spring, 53–55.

[2] Blakeman, K. (1996) The future role of intermediaries, *Proceedings of ukolug96@warwick.ac.uk conference*, Warwick University, July.

[3] Birchall, A., A. Deakin and R. Rada (1994) Knowledge automation and the need for intermediaries, *Journal of Librarianship and Information Science*, **26**(4), 181–190.

[4] Blakeman, K. *op. cit.* (2)

[5] Stahl, B. *op. cit.* (1).

[6] Day, J.M, C. Edwards and G. Walton (1995) IMPEL: a research project into the impact on people of electronic libraries — Stage One — librarians, in Ahmed H. Helal and Joachim W. Weiss (Eds.) *Information Superhighway: The Role of Librarians, Information Scientists, and Intermediaries*, Essen University Library, vol. 18, 108–116.

[7] Edwards, C., J.M. Day and G. Walton (1995) The IMPEL Project at the University of Northumbria at Newcastle: Background, Methodology and Progress, *Library and Information Research News*, **19**(2), 5–10.

[8] Walton, G., J.M. Day and C. Edwards (1995) Training needs for staff competencies in a quality library service: relevance of the IMPEL Project, *The Liber Quarterly*, **5**(4), 389–400.

[9] Walton, G., J.M. Day and C. Edwards (1996) Role changes for the academic librarian to support effectively the networked learner: implications of the IMPEL Project undertaken by the Department of Information and Library Management and the Information Services Department at the University of Northumbria at Newcastle, *Proceedings of the 1st International Symposium on Networked Learner Support*, 17–18 June, Sheffield.

[10] Allen, G. (1989) Patron responses to bibliographic databases on CD-ROM, *RQ*, **29**(1), 103–110.

[11] Wozny, L.A. (1988) College students as end-user searchers: one university's experience, *RQ*, **28**(1), 54–61.

[12] Culbertson, M. (1992) Analysis of searches by end-users of science and engineering CD-ROM databases in an academic library, *CD-ROM Professional*, **5**(2), 76–79.

[13] Barbuto, D.M. and E.E. Cevallos (1991) End-user searching: program review and future prospects, *RQ*, **31**(2), 224–227.

[14] Ankeny, M.M. (1991) Evaluating end-user services: success or satisfaction, *Journal of Academic Librarianship*, **16**(6), 352–356.

[15] Wilkinson, L. How to build scenarios, http://www.hotwired.com/wired/scenarios/build.htm

[16] Ibid.